A Report of Patient Satisfaction with Hospital Care in Rhode Island

TECHNICAL REPORT

R I HEALTH CARE QUALITY M.A.P.

Measurement And Performance

Fall 2001

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Project Overview

In 1998, the Rhode Island General Assembly passed a law which established the Rhode Island Health Quality Performance Measurement and Reporting Program. The goal of this legislation is to promote quality in the state's health care system by developing a performance measurement and public reporting program. This legislation mandates the public reporting of information on the quality of care in all licensed Rhode Island health care facilities, beginning with hospitals. This Technical Report documents the methods used in hospitals to meet the legislative requirements in regards to comparable, statistically valid patient satisfaction measures conducted by facilities and reported to the Rhode Island Department of Health. The information comes from patients in eleven general hospitals and two specialty hospitals – one that provides only rehabilitation services, and one that provides only psychiatric services.

The eleven licensed general hospitals and the two licensed specialty hospitals were mandated by legislation to publicly report patient satisfaction information. There are some hospital based healthcare facilities that were not required to participate in this year's project (e.g., the Veterans Affairs hospital, a pediatric psychiatric hospital, long-term care facilities, rehabilitation or psychiatric units of general hospitals). The eleven licensed general hospitals and two licensed specialty hospitals participating in the project are:

Butler Hospital
Services: Psychiatric
345 Blackstone Boulevard
Providence, RI 02906
401- 455-6200
www.butler.org

Rehabilitation Hospital of RI
Services: Rehabilitation
116 Eddie Dowling Highway
North Smithfield, RI
401-766-0800
www.rhri.net

Kent County Memorial Hospital
Services: Medical, Surgical, Obstetrical
455 Toll Gate Road
Warwick, RI 02886
401-737-7000
www.kenthospital.org

Rhode Island Hospital
Services: Medical, Surgical
593 Eddy Street
Providence, RI 02903
401-444-4000
www.rhodeislandhospital.org

Landmark Medical Center
Services: Medical, Surgical, Obstetrical
115 Cass Avenue
Woonsocket, RI 02895
401-769-4100
www.landmarkmedical.org

Roger Williams Medical Center
Services: Medical, Surgical
825 Chalkstone Avenue
Providence, RI 02908
401-456-2000
www.rwmc.com

Note to reader: This Technical Report will be updated on December 7th 2001.

Memorial Hospital of RI
Services: Medical, Surgical, Obstetrical
111 Brewster Street
Pawtucket, RI 02860
401-729-2000
www.mhri.org

South County Hospital
Services: Medical, Surgical, Obstetrical
100 Kenyon Avenue
Wakefield, RI 02879
401-782-8000
www.schospital.com

The Miriam Hospital
Services: Medical, Surgical
164 Summit Avenue
Providence, RI 02906
401-793-2500
www.miriamhospital.org

Westerly Hospital
Services: Medical, Surgical, Obstetrical
25 Wells Street
Westerly, RI 02891
401-596-6000
www.westerlyhospital.com

Newport Hospital
Services: Medical, Surgical, Obstetrical
11 Friendship Street
Newport, RI 02840
401-846-6400
www.newporthospital.org

Women & Infants Hospital of RI
Services: Medical, Surgical, Obstetrical
101 Dudley Street
Providence, RI 02905
401-274-1100
www.womenandinfants.com

Our Lady of Fatima Hospital
Services: Medical, Surgical
200 High Service Avenue
North Providence, RI 02908
401-456-3000
www.saintjosephri.com

Program Operations

The Rhode Island Department of Health (HEALTH) is responsible for the implementation and oversight of the program. HEALTH is working closely with the Hospital Association of Rhode Island (H.A.R.I.), who has a coordinating role in the program.

Satisfaction Measurement Vendor

Press Ganey Associates, Inc. (formerly Parkside Associates, Inc.) was the independent healthcare survey research firm selected to administer the patient satisfaction surveys. The goal of the selection process was to find a vendor with a valid and reliable survey instrument, large normative database, full data collection capabilities, and comprehensive reporting system. An extensive selection process involved a review of over 60 vendors, distribution of 41 Requests For Proposals and evaluation of five completed proposals. This public process was conducted from May 1999 – February 2000. Parkside Associates, Inc., an independent survey company, based in Park Ridge, Illinois was the selected vendor. In December 2000, another research firm, Press Ganey Associates, purchased

Parkside Associates, Inc. The Parkside Associates, Inc. measurement tool and comparative database remained available for the project completion.

Press Ganey Associates, Inc. is a satisfaction measurement and research organization based in South Bend, Indiana. Established in 1985, the firm developed satisfaction surveys implemented in hospitals and other health care settings. Press Ganey Associates is the largest firm in the industry, processing more than seven million surveys a year for over 2,400 clients.

A team of research consultants managed the data collection and report generation process. The Press Ganey Survey Center located in Park Ridge, Illinois coordinated the mailings and processed the returned surveys to maintain internal quality control. An expanded team of research consultants drafted the Technical Report as well as performed the data analysis included in the report.

Technical Report Explanation

Patient satisfaction data collected under this program is communicated in two documents: the Public Report and the Technical Report. The Public Report provides rating levels for various dimensions of care based on hospital scores provided by patients in Rhode Island hospitals. The intention is to display the patient satisfaction ratings in a consumer-friendly format. This Technical Report expands on the Public Report and provides detailed information on the project including: survey development, data collection methodology, data quality assessment, indicator explanation, calculation of hospital scores, normative comparison explanation, and score conversions, as well as specific numerical scores for the hospitals.

Survey Development

Early Development

The initial development of the inpatient questionnaire used by Parkside Associates, Inc. occurred from 1980 to 1987. This was accomplished with the assistance of several hospitals that used the questionnaires on a quarterly schedule. These sites provided useful feedback on questionnaire layout, item clarity and utility. Revised questionnaires were

developed using patient focus groups and feedback from participating hospitals. The original questionnaire contained 44 questions, comprising 8 domains of care, and was part of a set of survey instruments named the *Quality of Care Monitor (QCM)*. A mail methodology was chosen as the standard methodology for all studies, for both practical and theoretical reasons. In 1990, 196 hospitals participated in a large national psychometric study of the inpatient questionnaire.

A sequence of statistical analyses were conducted to establish the psychometric reliability and validity of the questionnaire. The first step was to determine construct validity which was evaluated through factor analysis. The factor analysis confirmed the pattern of the eight unique domain's of care developed from the analysis of earlier versions of the survey. The eight domains of care were: Nursing Care, Physician Care, Medical Outcome, Comfort and Cleanliness, Courtesy, Admitting/billing, Food Service and Religious Care. The next step involved demonstrating a reasonable degree of domain independence. Inter-domain correlations were calculated to ensure that the domains were not overlapping. Although there is no rigid rule to determine the maximum allowable inter-domain correlation, a guideline of 0.60 or less was established as a general guideline for this analysis. All domain correlations met this requirement. Reliability or internal consistency of the domains, was estimated using the Cronbach's Alpha statistic. An Alpha score of 0.50 was set as the minimum standard for group comparisons. Six of the domains had Alpha scores ranging from 0.73 to 0.92. The exceptions were the Medical Outcome domain (Alpha = 0.44) and Admitting/Billing domain (Alpha = 0.56). Finally, the inpatient domains gave clear evidence of predictive validity. The results of the multiple regression analysis showed that seven domains explained 60% of the variance of the Overall Quality of Care item (excluding the Religious Care domain).

Revalidation of the Inpatient Quality of Care Monitor Patient Survey

In 1993, as a result of client input and a series of focus groups, a revalidation study of the QCM was conducted to evaluate 11 new items. The new items were intended to assess patient perceptions of the coordination of care, an aspect of patient care that was not addressed in the original development of the QCM. In addition, an item that was added to the survey after the 1990 study was also tested ("Overall are you satisfied with the outcome of your medical treatment?"). Two hundred and four hospitals from 43 states participated in this study. The same statistical analyses were conducted as in the 1990 study. In short, the previous study's results were virtually duplicated, the

seven domains of care were confirmed by the factor analysis and the inter-domain correlations again were all less than 0.60. The factor analysis did not confirm the existence of the coordination of care items as a new domain because most of the new questions loaded on existing domains of care. The regression models testing the predictive validity of the instrument also replicated the 1990 study results. The overall coordination of care question explained an additional 10% of the variance of patient judgments of quality over that explained by the seven original domains. As a result, the QCM accounted for 70% of the variance in patient judgments of quality.

In 1999, ten new items were added to the standard inpatient questionnaire based on the results of a nation-wide research study. Five of the new questions composed a new Patient Education domain and included questions such as communication of information between physician and patient and preparation of a patient for continued recovery at home. Data were received from 126 facilities. Factor analysis reconfirmed, in large part, the seven factor structure identified in the 1993 validation study and identified a new eighth factor, Patient Education, which was composed of five new items. Individual items from the 1993 study maintained their primary loadings on the same factors as they did in the original solution. Of the remaining five new items, three loaded on the nursing domain and two loaded on the physician domain. Again, the inter-domain correlations were less than 0.60; the reliability estimates of the scales calculated using Cronbach's Alpha were high for the new patient education domain (0.78); most domains either met or exceeded those values of the original study. Consistent with the results found in the 1993 study, the regression model explained 60% of the variance in patient judgments of quality.

Note to reader: This Technical Report will be updated on December 7th 2001. The appendix of this report will then include the actual results of the 1999 revalidation project.

Survey Description

An inpatient survey was used for all general hospitals and the rehabilitation specialty hospital. A psychiatric survey was used for the psychiatric specialty hospital.

Inpatient Survey

The inpatient survey was mailed to patients discharged from surgical, medical and obstetrical services and the rehabilitation hospital. The survey consisted of 79 questions, of these fifty-three questions were grouped into eight

domains: Nursing Care, Physician Care, Treatment Results, Comfort and Cleanliness, Support Staff Courtesy, Food Service, Admitting/Billing and Patient Education. The other 26 items comprise Patient Loyalty, general demographic information and "other" questions, which did not specifically relate to one of the eight domains.

A. Patient Loyalty
    1. What is your overall opinion of the quality of care received?
    2. Would you return to this hospital for your medical care?
    3. Would you recommend this hospital to your friends or family?

B. Nursing Care
    1. What is your overall opinion of nursing care?
    2. How would you rate the courtesy of the nurses?
    3. Were your satisfied with the thoroughness of care you received from the nursing staff?
    4. Did you feel that the nursing staff was concerned about you as a person?
    5. Did you receive satisfactory answers to your questions from the nursing staff?
    6. Did you feel comfortable about sharing your personal concerns with the nursing staff?
    7. Did the nursing staff place things needed within your reach?
    8. When you used your call button, were you answered promptly?
    9. Did you receive your medications in a timely manner?
    10. If you stayed on more than one nursing unit, was the transfer between units handled well?
    11. Did the nursing staff call you by name?

C. Physician Care
    1. What is your overall opinion of physician care?
    2. How would you rate the courtesy of your physicians?
    3. Were you satisfied with the thoroughness of care you received from your physicians?
    4. Did your physician keep you informed about your condition and the care plan for you?
    5. Did your physicians adequately explain your diagnosis and treatment to you?
    6. Did you feel there was adequate communication among your physicians and the nursing staff regarding your care?
    7. Were you adequately involved with decisions affecting your care?
    8. When you left the hospital did you have a better understanding of your illness than when you entered?

D. Treatment Results
    1. Overall, are you satisfied with the outcome of your medical treatment?
    2. Do you feel the condition for which you were admitted to the hospital has improved as much as expected?
    3. Were you satisfied with how well your pain was controlled?
    4. Before you were discharged, did the hospital staff prepare you or your caregiver to manage your care at home?
    5. Were you sent home from the hospital before you felt ready?

E. Comfort and Cleanliness
    1. How would you rate the cleanliness of your room?
    2. How would you rate the cleanliness of the hospital in general?
    3. What is your overall opinion of housekeeping services?
    4. How would you rate the courtesy of the people who cleaned your room?
    5. How would you rate the temperature and ventilation of your room?

F. Other Staff Courtesy
    1. How would you rate the courtesy of the volunteers?
    2. How would your rate the courtesy of the physical therapist?
    3. How would you rate the courtesy of the people whom provided breathing therapy?

4. How would you rate the courtesy of the social workers?
5. How would you rate the courtesy of the escort personnel?
6. How would you rate the courtesy of the x-ray/radiology personnel?
7. How would you rate the courtesy of the hospital telephone operator?
8. How would you rate the courtesy of the people who drew blood?
9. How would you rate the courtesy of the chaplains?

G. Food Service
1. What is your overall opinion of food service?
2. How would you rate the courtesy of the people delivering your food?
3. How would you rate the flavor of the food?
4. How would you rate the temperature of the food?
5. How would you rate the menu choices?
6. How would you rate the timeliness of meal delivery?

H. Admitting
1. Did the admitting personnel take the time to answer your questions?
2. Was the waiting time during admission acceptable?
3. How would you rate the courtesy of the person who admitted you?
4. If your stay was pre-arranged, was the hospital ready for you?

I. Patient Education
1. Were you told what danger signals to watch for after you went home?
2. Were you told about medication side effects to watch for when you went home?
3. Did someone clearly explain the purpose of your medications?
4. Were you told when you could resume normal activities such as driving, working, or exercise?
5. Were rights and responsibilities as a patient clearly explained?

J. Other Questions
1. What is your overall opinion of the coordination of your care?
2. Rate staff's understanding of your racial/cultural background?
3. What is your overall opinion of how well your family and friends were kept informed of your care?
4. Rate the level of respect shown to you by nursing staff.
5. When you needed assistance, how well did the nursing staff help with bathing, using the bathroom, or other physical needs?
6. Rate the courtesy of the discharge planning/case managers.
7. Were you satisfied with how hospital personnel handled your bill?
8. If you had surgery, were the risks and benefits clearly explained?
9. Were the results of test explained in a way you could understand?
10. When you needed assistance, how well did the nursing staff help with bathing, using the bathroom, or other physical needs?

K. General Information Questions
1. Were you on a special diet while hospitalized?
2. Were you admitted through the Emergency Department?
3. Why did you choose this hospital?
4. Including this most recent hospital stay, how many times were you hospitalized?
5. Overall, how would you rate your health before this most recent hospital stay?
6. Was this your first time at this hospital?
7. Patient age?
8. Patient sex?
9. What is your race?
10. Are you of Hispanic or Latino origin or descent? (custom question added for this project)
11. Did someone help you complete this survey?
12. If so, how did that person help you? (custom question added for this project)

13. What is the highest grade or level of education that you have completed? (custom question added for this project)

The inpatient survey also included two open-ended questions: 1) What most impressed you? and 2) How could we improve our services?

Psychiatric Survey

The psychiatric survey was handed out to patients who were discharged from the freestanding psychiatric hospital. The survey consisted of 55 questions. Thirty-nine questions were grouped into six domains. The six domains are: Program Staff, Non-Medical Services, Hospital Program, Psychiatric Care, Patient Education and Treatment Results. The remaining 26 questions comprise Patient Loyalty, general demographic information and "other" questions which did not specifically relate to one of the six domains.

A. Patient Loyalty
    1. What is your overall opinion of the quality of care received?
    2. Would you return to this hospital for treatment if you felt it necessary?
    3. Would you recommend this hospital to your family and friends?

B. Program Staff
    1. What is your overall opinion of the care by the staff?
    2. Were the staff available when you asked them to talk?
    3. Did the staff treat you with respect?
    4. Were you comfortable sharing your personal concerns with the staff?
    5. Were the staff courteous and helpful to your family and friends?
    6. Did the staff help you with your physical needs (bathing, grooming, getting dressed, using the washroom, etc.) when you needed assistance?

C. Non-Medical Services
    1. How would you rate the cleanliness of your room?
    2. How would you rate the menu choices for meals?
    3. What is your overall opinion of the food service?
    4. How would you rate the discharge (returning home) process?
    5. What is your overall opinion of the housekeeping services?
    6. How would you rate the admitting process of the hospital program?

D. Hospital Program
    1. Did the program schedule and treatment meet your needs?
    2. How would you rate the group program(s)?
    3. Were the activities (arts, crafts, recreation, and exercise) a helpful part of your treatment?
    4. Was the orientation to the hospital adequate?

E. Psychiatric Care
    1. What is your overall opinion of the care by the psychiatrist?
    2. Was talking with your psychiatrist helpful?
    3. Did your psychiatrist keep you informed about your condition and plan of care?
    4. Were you adequately involved with decisions affecting your care?

5. Did it seem there was adequate communication among your psychiatrist and the staff regarding your care?
6. Did your psychiatrist adequately explain your diagnosis and treatment to you?
7. Were the reasons for taking medications explained to you?
8. Did your psychiatrist come to see you on a regular basis during your stay?

F. Patient Education
1. Did the staff help you learn about the community resources available to you?
2. Before you were discharged, did the hospital staff prepare you to care for yourself at home?
3. Did the staff explain your treatment in a way you could understand?
4. Were hospital rules adequately explained?
5. Were financial responsibilities adequately explained?

G. Treatment Results
1. Did you learn how to better cope with your condition (illness, problem)?
2. Did coming to this hospital make you feel better?
3. Did the medication help you get better?
4. Do you have a better understanding of your condition (illness, problem) than when you entered the hospital program?

H. Other Questions
1. Were your religious (spiritual) needs adequately met?
2. Did the staff demonstrate an understanding of your racial/cultural background?
3. Did you feel prepared (ready) when discharged from the hospital program?
4. How would you rate the courtesy of discharge planning staff/case managers?

I. General Information Questions
1. Why did you choose this hospital program for your treatment?
2. Including this most recent hospital stay, how many times were hospitalized in the past 2 years for an emotional (psychological) problem?
3. Overall, how would you rate your emotional (psychological) health before this most recent hospital stay?
4. How would you rate your emotional (psychological) health now?
5. Was this your first time in this hospital program?
6. Patient age?
7. Patient sex?
8. What is your race?
9. How many days was your most recent hospital stay?
10. Did your spouse or family participate regularly in the hospital program?
11. What is your primary hospital insurance coverage?
12. Are you of Hispanic or Latino origin or descent? (custom question added for this project)
13. Did someone help you complete this survey?
14. If so, how did that person help you? (custom question added for this project)
15. What is the highest grade or level of education that you have completed? (custom question added for this project)

The psychiatric survey also included two open-ended questions: 1) What most impressed you? and 2) How could we improve our services?

Methodology

Materials Used

Inpatient. An inpatient survey, a cover letter printed on hospital letterhead and a business reply envelope addressed to Press Ganey were mailed to patients. On the outgoing envelope, above the patient's name and address, there were several codes: week and observation number, hospital identification number, and project name. Nine of the twelve hospitals used a personalized questionnaire, meaning that the hospital's logo appeared at the top of the front page. For all hospitals, on the last page of the questionnaire, a label was affixed with the following information: patient type (Surgical, Medical, or Obstetric), hospital unit of discharge, hospital identification, week and observation number, survey type, and project name.

The cover letter was written in English on one side and in Spanish on the other. An English version of the survey was mailed to all patients. As is common in this type of data collection, hospital information systems had no reliable way to capture the patients' primary language in the data files used to draw the samples. Due to this logistic data file issue, non-English speaking patients could not be identified prior to the survey. Patients for whom Spanish was their primary language were given the opportunity to call the Rhode Island Department of Health and request a Spanish-only version of the survey. A reminder postcard was sent to each patient one week after the mailing. A future improvement, slated for implementation, include the identification of a patient's primary language as part of the initial mailing process.

Note to reader: This Technical Report will be updated on December 7th 2001. The appendix of this report will then include a copy of the cover letter used for data collection.

Psychiatric. The materials used in the psychiatric data collection differ slightly from those used in the inpatient data collection. This was due to the fact that the survey was given to the patient at discharge to protect patient confidentiality once they left the hospital. In a white envelope, the patient received a psychiatric survey and a cover letter on hospital letterhead. A business reply envelope was also included for their response. No reminder postcards were sent to patients.

Note to reader: This Technical Report will be updated on December 7th 200. The appendix of this report will then include a copy of the cover letter used for psychiatric data collection.

Sampling and Data Collection Process

Inpatient. The sampling and data collection process was conducted from April 1, 2001 through July 30, 2001. In the first 13 weeks, surveys were mailed to patients approximately one week after they were discharged. Reminder post cards were mailed to patients one week after they were mailed a survey. In the 14th week, the last reminder post cards were mailed. Patients were allowed three additional weeks to complete and return the survey.

The sample consisted of a stratified random selection of patients by patient type (i.e. surgical, medical, obstetric, rehabilitation). The sampling strategy for the inpatient survey included a selection of twenty-five (25) patients per patient type per week. If there were less than 25 patients per type per week, 100% of the patients were selected. The selection criteria for the patients sampled included only those who stayed overnight at the inpatient and rehabilitation facilities, were 18 years old or older and were discharged to personal residence. Patients were excluded from the sample if they were deceased; received a survey in the previous 6 months or were transferred to another facility.

Psychiatric. Because of laws governing patient confidentiality, the only exception in the above methodology was the inpatient psychiatric areas. All patients who met the selection criteria were handed a survey prior to their discharge, according to a pre-determined protocol. This protocol included distributing the psychiatric survey by a neutral party to all eligible patients on the day of discharge along with a cover letter and a business reply envelope. The patient was given the option to either complete the survey in the hospital and return it to a locked drop-off box, or complete the questionnaire at a personal residence and mail it in the business reply envelope addressed to Press Ganey Associates, Inc.

The selection criteria for the patients sampled included only those who stayed overnight at the inpatient psychiatric facility, were 18 years old or older and were discharged to a personal residence. Patients transferred to a group home were also considered eligible as well as those who did not have the ability to answer the survey (i.e. the survey was given to a family member). Patients were excluded from the sample if they were under the age of 18,

transferred to anther facility or had received an inpatient psychiatric survey from the hospital in the previous six months. Press Ganey monitored the number of discharges and the number of surveys distributed on a weekly basis.

Project Fulfillment

Once a week from April 9, 2001 through July 2, 2001, the participating facilities sent their demographic information of all patients discharged the previous week in a standardized ASCII fixed length file structure. Dataset submission from facilities also included the number of observations (indicated in text of the email message) to verify successful transmission.

In order to select patients to be mailed surveys, three steps were followed:

1) data file was quality checked;
2) the possibility of a patient receiving two surveys within the data collection period was eliminated, and
3) a random sampling program was run. If there were less than 25 patients per type per week, 100% of the patients were selected.

The total turnaround time from receiving the file and mailing the survey to patients was within three business days.

Data Quality Assessment

Response Rates

In survey research overall response rate is one measure of the representativeness of the sample of respondents. In general, the higher the response rate the lower the chance of response bias. Babbie (1989) has been quoted as stating: "…a 50% response rate is adequate for analysis and reporting. A response rate of at least 60% is good. And a response rate of 70% is very good." This, however, is a rough guideline; it has no statistical basis, and a demonstrated lack of response bias is far more important than a high response rate (Babbie 1989). The national

average response rate for hospitals using the inpatient survey with a postcard follow-up is 40%. The national average response rate for the survey used for psychiatric services is also 40%.

Response rate is defined as: The number of surveys completed by patients divided by the number of surveys mailed to patients, minus the number of surveys returned from the post office as undeliverable. Response rate is typically expressed in the form of a percentage.

Overall Response Rates

Statewide, approximately 43% of patients receiving surveys returned them. The mean hospital response rate was 45%. The highest overall response rate achieved by an individual hospital was 53%, the lowest overall response rate was 31%. About three-fourths of the individual hospitals (nine of the thirteen hospitals) achieved overall response rates greater than 40%. Overall, response rates varied by type of service received by the patient.

Surgical Patients

The mean response rate for surgical patients was 49%. The highest response rate achieved by an individual hospital was 65%, the lowest 40%. Seven of the individual hospitals achieved response rates above 45%.

Medical Patients

The mean response rate for medical patients was 40%. The highest response rate achieved by an individual hospital was 50%, the lowest 26%. Nine of the individual hospitals achieved response rates above 35%.

Obstetrical Patients

The mean response rate for the seven individual hospitals that serve obstetrical patients was 42%. The highest response rate achieved by an individual hospital was 59%, the lowest 26%. Five of the individual hospitals achieved response rates above 40%.

Rehabilitation Patients

The response rate for the rehabilitation hospital was 53%.

Psychiatric Patients

The response rate for the psychiatric hospital was 31%.

Table 1: Summary Table of Response Rates

	Sample Size	Surveys Completed	Undeliverable Surveys	Response Rate
General Hospitals Aggregate	**7349**	**3032**	**110**	**42%**
Medical Aggregate	**3294**	**1292**	**53**	**40%**
Surgical Aggregate	**2976**	**1317**	**41**	**45%**
Obstetrical Aggregate	**1310**	**523**	**16**	**40%**
Kent				
All Patients	908	365	10	41%
Medical	325	120	5	38%
Surgical	325	143	3	44%
Obstetrical	258	102	2	40%
Landmark				
All Patients	642	278	0	43%
Medical	325	140	0	43%
Surgical	175	85	0	49%
Obstetrical	142	53	0	37%
Memorial				
All Patients	828	255	14	31%
Medical	325	84	5	26%
Surgical	310	122	3	40%
Obstetrical	193	49	6	26%
Miriam				
All Patients	637	315	8	50%
Medical	325	142	6	45%
Surgical	312	173	2	56%
Newport				
All Patients	545	251	6	47%
Medical	239	112	1	47%
Surgical	149	78	2	53%
Obstetrical	157	61	3	40%
Rhode Island				
All Patients	650	286	14	45%
Medical	325	123	8	39%
Surgical	325	163	6	51%
Roger Williams				
All Patients	600	205	32	36%
Medical	325	93	18	30%
Surgical	275	112	14	43%
Our Lady of Fatima				
All Patients	650	255	3	39%
Medical	325	122	2	38%
Surgical	325	133	1	41%
South County				
All Patients	478	246	7	52%
Medical	325	160	5	50%
Surgical	47	24	1	52%
Obstetrical	106	62	1	59%

Note to reader: This Technical Report will be updated on December 7th 2001.

Westerly				
All Patients	649	289	5	45%
Medical	322	138	1	43%
Surgical	198	90	3	46%
Obstetrical	129	61	1	48%
Women & Infants				
All Patients	762	387	11	52%
Medical	133	58	2	44%
Surgical	304	194	6	65%
Obstetrical	325	135	3	42%
Specialty Hospitals				
Rehabilitation				
All Patients	128	68	0	53%
Butler				
All Patients	714	184	127	31%

Key Demographics

Differences in response rates between certain population groups can result in some groups being over-represented or under-represented in the total sample, thus potentially biasing the results. Response bias is a concern when: 1) the scores differ by type of patient and 2) the under-represented groups comprise a sizeable proportion of the entire patient base.

To evaluate response bias using the data in the study, Press Ganey examined key demographic variables to identify any differences between the following groups of patients: total eligible patient population, the sample of patients selected to be sent a survey, the respondents and the non-respondents. The key variables were: age, gender, length of stay, insurance type and patient type. Press Ganey examined the data at the aggregate level as well as at the individual hospital level.

In the study, the following response patterns were found: the oldest patients were more likely to respond than any other age group, patients with Blue Cross or Medicare insurance coverage were more likely to respond than patients with other types of health insurance, and surgical patients were more likely to respond than medical or obstetrical patients. These response patterns match previous research on response patterns in survey research. In addition, these response patterns also match the response patterns identified in the normative comparison group.

Table 2: Comparison Table of Sample, Respondents and Non-Respondents for Key Demographics

Key Demographics	Total Patient Population	Sample Size	Respondents	Non Respondents
Age				
16-35 years old	22%	22%	19%	26%
36-64 years old	36%	38%	37%	38%
Over 64 years old	42%	41%	44%	37%
Gender				
Male	37%	36%	35%	36%
Female	63%	64%	65%	64%
Length of Stay				
Under 5 Days	74%	73%	74%	73%
5 - 7 Days	16%	15%	15%	15%
Over 7 Days	11%	11%	11%	12%
Insurance Type				
Blue Cross	23%	24%	28%	22%
Managed Medicaid	8%	7%	4%	10%
Medicaid	4%	4%	2%	5%
Medicare	25%	23%	22%	23%
Managed Medicare	15%	15%	19%	13%
HMO	10%	12%	12%	11%
Commercial	7%	8%	9%	7%
Champus	1%	1%	1%	1%
Self-Pay	8%	5%	3%	7%
Other Government	0%	0%	0%	0%
Workers Comp	1%	1%	1%	1%
Patient Type				
Medical	55%	46%	43%	48%
Surgical	26%	37%	41%	33%
Obstetrical	19%	18%	16%	18%

A stratified random sample was used in this project, that meaning, an equal number of patients from each patient type (surgical, medical, obstetrical) were selected irregardless of the proportion of those patient types to the patient population. Therefore, it was expected that the proportion (percent) of patient types represented the sample group of patients, the respondents group and the non-respondents group differed slightly from the total patient population.

By comparing the response rates of the different categories of patients, we determined if specific types of patients were potentially over or under represented in the results. The fact that some groups are more likely to respond than others indicated the potential for bias in the overall scores. However, tests conducted to identify whether groups differed in the ratings of care they received showed that; 1) there were minimal differences between the groups; and 2) where differences occurred, the groups with different scores did not represent a sizable proportion of the entire

population base. Therefore, we can conclude that the overall scores in this study are an accurate reflection of the total population.

Error Estimates

The estimated standard error of a statistic is a measure of the variation due to sampling and can be used to examine the precision obtained in a particular sample. By mere chance alone, some difference between a sample and the population from which it is drawn must always be expected to exist.

By definition standard error is the standard deviation of the sampling distribution. In this study the error estimate for each hospital was calculated by dividing the standard deviation of the hospital specific sample by the square root of the sample size. The calculation of the error estimate utilized each hospitals own standard deviation. This product was further multiplied by the *finite population correction factor* to yield the standard error estimate. There were two reasons why the formula was adapted to include the finite population correction factor: 1) a large proportion of patients were sampled compared to total discharges; and 2) the results of this study were based on a single sample.

The standard error associated with each domain of care was examined by patient type for each hospital. The potential for sampling bias between the sample and its population can be represented through the use of confidence intervals.

Note to reader: This Technical Report will be updated on December 7th 2001. The appendix of this report will then include a summary of the error estimates for each hospital.

Confidence Intervals

Confidence intervals are equivalent to the "margin of error" that is often mentioned in public opinion surveys. The confidence interval provides a range in which a true score would be likely to fall if it were possible to obtain a survey response from all patients. Confidence intervals for individual hospitals will vary in width depending on (1) the numbers of responses they received to the survey, (2) the variation in the respondents' answers to specific questions in each of the domains of care and (3)the level of confidence selected, typically, hospitals with many

respondents have narrower confidence intervals than hospitals with fewer responses. Confidence intervals were calculated at 95% for each for each domain of care for each hospital by patient type.

The table below illustrates the average confidence interval at 95% across all hospitals for each domain of care by patient type.

Table 3A: Average Confidence Intervals for Surgical Services

Domain	95% Confidence Interval (+/-)
Nursing Care Average	2.609824848
Physician Care Average	2.217912652
Treatment Results Average	2.501178373
Comfort/Cleanliness Average	2.287172268
Other Staff Courtesy Average	1.964611527
Food Service Average	2.519177407
Admitting Average	2.722155742
Patient Education Average	4.039370462
Patient Loyalty Average	2.712247239
Overall Patient Experience Average	1.632076548

Table 3B: Average Confidence Intervals for Medical Services

Domain	95% Confidence Interval (+/-)
Nursing Care Average	2.402690078
Physician Care Average	2.794560091
Treatment Results Average	2.821786691
Comfort/Cleanliness Average	2.517424909
Other Staff Courtesy Average	2.108542919
Food Service Average	2.764854287
Admitting Average	3.774413051
Patient Education Average	4.799683064
Patient Loyalty Average	2.562479593
Overall Patient Experience Average	1.882484497

Table 3C: Average Confidence Intervals for Obstetrical Services

Domain	95% Confidence Interval (+/-)
Nursing Care Average	2.15509711
Physician Care Average	2.24437018
Treatment Results Average	2.623786319
Comfort/Cleanliness Average	2.683191256
Other Staff Courtesy Average	2.704633299
Food Service Average	2.992791059
Admitting Average	3.048591078
Patient Education Average	3.893295104
Patient Loyalty Average	2.385762614
Overall Patient Experience Average	1.68541692

Note to reader: This Technical Report will be updated on December 7th 2001. The appendix of this report will then include a summary of the confidence intervals for each hospital. In addition, it will include the confidence intervals for the Specialty Hospitals.

Indicator Explanation

None of the indicators discussed in this section appear as individual questions on the survey. Rather, they are each a combination of scores at various levels.

Domains

The domains represent reliable, valid and independent measures of various dimensions of care. In statistical research, domains are often referred to as scales. Scales are based on a series or group of individual questions pertaining to the same topic. There were eight domains for the inpatient survey: Nursing Care; Physician Care; Patient Education; Treatment Results; Comfort and Cleanliness; Admitting; Other Staff Courtesy; and Food Service. There were six domains for the psychiatric survey: Program Staff; Non-Medical Services; Hospital Program; Psychiatric Care; Patient Education; and Treatment Results.

Overall Patient Experience (Composite Quality Score)

The Overall Patient Experience (Composite Quality Score) is the bottom line indicator on patient perceptions of satisfaction and the overall quality of care provided by the hospital. The Composite Quality Score is defined in *Step 3 of the Hospital Score Calculation Section* (pp. 21).

Patient Loyalty Index

The patient loyalty index is an accumulation of scores based on three questions: overall quality of care, the likeliness to recommend, and the likeliness to return. It is considered an index because it was not created through a factor analysis, as were the other domains. These three questions were excluded from the factor analysis in the domain development as they together constitute the dependent variable that was used in the multiple regression modeling.

Hospital Score Calculations

In order to calculate the scores reported for this project, several steps were followed.

Step 1: Numeric Conversion of Patient Responses

Inpatient. The survey contains both evaluative and event focused questions. Response categories for the evaluative questions were based on a 5-point scale (Excellent, Good, Fair, Poor, Very Poor), while event questions were based on a 3-point scale (Yes, To Some Extent, No). The response categories were converted to a numeric scale from 0 – 100. Questions rated on the five-point scale were converted as follows: Excellent=100, Good=75, Fair=50, Poor=25, Very Poor=0. Questions rated on the three-point scale were converted as follows: Yes=100, To Some Extent=50 and No=0. For both the five-point and the three-point scales, a response of "Does Not Apply" was assigned as a missing value and was not an element in the calculation of the scores.

Psychiatric. The same numeric conversion was used. The response categories were slightly different. Evaluative questions used the responses Excellent, Very Good, Good, Fair, Poor. Question rated on the five-point scale were converted as follows: Excellent=100, Very Good=75, Good=50, Fair=25, Poor=0. Event focused questions were the same as those used in the inpatient survey. A response of "Does Not Apply" was assigned as a missing value and was not an element in the calculation of the scores.

Step 2: Domain Score Calculation

Using the same converted values for each question, domain scores are first calculated at the patient level. That is, for each patient, the converted values for the individual questions in the particular domain are averaged together creating a patient level domain score. The patient level domain scores are averaged together to create the facility level domain score. This facility level domain score is displayed in the report as the Subscale Score.

Step 3: Overall Patient Experience (Composite Quality Score)

The composite quality score is a weighted average of the domain scores.

Inpatient. The seven domain scores are averaged together after applying the weight for each:
Nursing Care (.20); Physician Care (.18); Treatment Results (.15); Comfort and Cleanliness (.13); Admitting (.12); Support Staff Courtesy (.12) and Food Service (.10).

Patient Education Exclusion from Composite Quality Score. Prior to 1999 the standard inpatient survey consisted of seven domains; Nursing Care, Physician Care, Treatment Results, Comfort and Cleanliness, Support Staff Courtesy, Admitting, and Food Service. In 1999 Press Ganey conducted a research study that introduced the Patient Education domain as part of the inpatient survey. As a result of the study, the Patient Education domain was incorporated as part of the standard inpatient survey. The updated inpatient survey became available to clients in 2000 and Rhode Island hospitals were among the first to use it. As client facilities gathered data on the Patient Education domain over the course of 2001, a normative comparison database was established. This enabled Press Ganey to generate patient type (medical, surgical, obstetrical and rehabilitation) norms for the Patient Education domain. The number of facilities providing comparative data for the Patient Education domain was smaller than the other domains. Since the Composite Quality Score is based on a weighted average of the domains, the inclusion of the patient education domain limited the size of the database comparison for the Composite Quality Score to the number of facilities with Patient Education data. Therefore, the Composite Quality Score excluded the Patient Education domain and utilized the seven domain weighting scheme.

Psychiatric. The six domain scores are averaged together after applying the weight for each:

Program Staff (.226); Non-Medical Services (.198); Hospital Program (.175); Psychiatric Care (.163); Patient Education (.121); Treatment Results (.117).

Normative Comparison Group

Norm Generation

In order for data to be included in the Press Ganey normative comparative group, standard criteria must be met. These criteria consisted of minimum response rates, minimum number of observations, applicable time frames and following recommended methodology. Each facility represented in the norm contributes one score based on the average of any data collected for the year. The normative databases are updated on an annual basis and will only include data for the prior calendar year; for this report that calendar year was 2000. Each normative comparison group includes: a national average score (which is the average of the hospitals scores given by patients who received similar types of service from a group of hospitals across the country that use the same survey), a highest score (the score of the highest scoring facility), a lowest score (the score of the lowest scoring facility) and the standard deviation.

Descriptive of Normative Comparison Group

General Information. All norms used in this study included only patients 18 years old and over.

Surgical Norm. Data was included from 128 facilities.

Medical Norm. Data was included from 149 facilities.

Obstetrics Norm. Data was included from 179 facilities.

Rehab Norm. Data was included from 55 facilities.

Psychiatric Norm. Data was included from 64 inpatient units as well as free standing hospitals.

Note to reader: This Technical Report will be updated on December 7th 2001. The appendix of this report will then include a descriptive profile of the above normative comparison groups, including region, location, size of the hospital and teaching status.

Hospital Scores Converted to Diamond Ratings

Inclusion Criteria

Hospitals rated in the public report met the following requirements: 1) a minimum of 40 completed surveys for each service type 2) an adequate response rate 3) demonstrated lack of response bias, and 4) free from any data quality issues. Types of service include: Surgical Service, Medical Service, Obstetrical Service, Rehabilitation Hospital and Psychiatric Hospital.

Risk Adjustment of Data

Note to reader: This Technical Report will be updated on December 7th 2001. This section will then include a description of the decision to not risk adjust the data collected for this project.

Hospital Performance Category Determination

This report presents the results from the Rhode Island Health Quality Performance Measurement and Reporting Program, as directed by Rhode Island General Assembly***. This report is not meant to be a guide to "good" and "bad" or "high performing" and "low performing" hospitals.*** The hospital performance scores in the report are based on patient responses to questions about their hospital patient experiences and does not measure clinical outcomes or assess the competence of medical staffs. This project is, however, an important step in educating the public about important aspects of hospital care.

Symbol Definition Selection. After review of over 40 public health reports and consultation with public reporting experts, the symbol selected to represent differentiation between hospitals was the diamond. In addition to being an easy symbol to understand and decipher, the diamond is not readily associated with other rating symbols (e.g., movies, consumer reports, restaurants, etc.).

Description of the Pilot Project. All hospitals participated in a pilot project that was conducted July-October 2000. The purpose of the pilot project was two-fold: 1) To pilot the sample and data collection methodology and identify potential improvements in the process, and 2) To provide baseline information from which decisions regarding the format of the public report could be made. The results of the pilot test were confidential, released only

to the participating hospitals. However, Press Ganey shared specific information regarding data quality, error estimates and confidence intervals so that educated decisions could be made for the public report. As a result, final decisions regarding the public report were recommended and approved by all levels *a priori.*

Performance Rating Levels. The most common performance rating systems among the pubic reports reviewed used either three or five levels of differentiation. Based on the distribution of scores from the pilot project, a three level differentiation was selected to adequately portray any differences among hospitals.

Performance Rating Determination. There are two basic assumptions that must be considered when working with patient satisfaction data:

1) Patient satisfaction survey science has neither defined nor established quantifiable cutoffs for stratifying performance. The exact point at which average performance becomes above average or below average is unknown.
2) Patient satisfaction research involves measurement of patient perceptions and is not an exact science.

Performance rating assignments were determined by how each hospital's score compared to a national average score for each specific domain. The cornerstone of this process was an *a priori* decision. Although an *a priori* decision had been reached, this decision was augmented after the project data had been collected.

Original Performance Rating Decision

The original performance rating decision was agreed upon prior to the results of this study being available. The goal was to identify practical difference from a national average by using the hospital scores (point estimate). Standard deviations flags were decided to be the most appropriate differentiation. This decision was based on three facts: 1) the distribution of the Rhode Island pilot study results mirrored a normal bell-shaped curve; 2) one standard deviation away from a national average score is generally accepted as a practical difference; and 3) hospitals that use the Press Ganey survey for measuring performance in their organization tend to use the standard deviations as a means to flag both strengths and opportunities.

Three diamond symbols (♦ ♦ ♦) indicated that the hospital's score was above average, that is, a standard deviation or more above a national average score. That translated into scoring approximately in the top 16% of the database. Two diamond symbols (♦ ♦) indicated that the hospital's score was neither above or below a national average score by a standard deviation. That translated into approximately the middle 68% of the database. One diamond (♦) indicated the hospital's score was below average, that is, a standard deviation or more below a national average score. That translated into approximately the bottom 16% of the database.

Decision to Change the Original Performance Rating Decision

The standard deviation approach categorized actual results into three distinct groups based on where a hospital's score fell within the distribution of all scores in the database. However, the standard deviation approach alone lacks the ability to identify statistical confidence that a score is above or below a national average score. Therefore the decision was made to enhance the standard deviation approach by applying confidence intervals.

The confidence interval indicates the likelihood that the difference between the hospital's score and the national average score was due to more than just sampling error. The confidence interval plays an important role in determining if a hospital's score was higher or lower than a national average score. Because the survey reflects responses from a sample of each hospital's patients, it is more statistically complete to identify the hospital's score as falling within the range bordered by the 95% confidence interval, as well a providing the point estimate from the sample data. If the 95% confidence interval around the hospital's score lies entirely above a national average score,

there is a high degree of certainty (95%) that a survey of all of the hospital's patients, not just a sample, would produce a score above a national average score. When a hospital's confidence interval overlaps a national average score, it means that the hospital's performance is not statistically different from a national average score. The application of the confidence intervals improves the original approach of "practical difference" by the introduction of "significant difference."

Augmented Performance Rating System

The augmented approach to the performance rating system described above involved two steps.

1. **Step 1:** Hospitals that had scores above or below a national average score by one standard deviation or more were identified.
    a. If a hospital score was not above or below the national average score by one standard deviation or more, the hospital was then assigned the two diamond symbol (♦♦).
    b. If a hospital score was above or below the national average score by one standard deviation or more, it then proceeds to **Step 2**.
2. **Step 2:** For the scores that were one standard deviation or more above or below the national average score, the hospital's 95% confidence interval for that particular domain was then applied.
    a. If the hospital's score was above the national average score by one standard deviation or more AND the confidence interval did not overlap the national average score, the hospital was assigned the three diamond symbol (♦♦♦).
    b. If the hospitals score was below the mean score in the national average score by one standard deviation or more AND the confidence interval did not overlap with the national average score, the hospital was assigned the one diamond symbol (♦).
    c. If the confidence interval overlapped with the national average score, then the hospital was assigned two diamonds (♦♦).

Assumptions around the national average score. The national average score used in this study was an appropriate national norm to use for comparison with scores for Rhode Island hospitals. Scores for medical, surgical, and obstetrical patients in Rhode Island hospitals were compared to national norms for hospitals that have dedicated

medical, surgical and obstetrical units, respectively. The national comparison groups used in this study are assumed to be representative of the total patient population; therefore, the national average score was used as an absolute score even though there was minimal standard error around it, on average, ±0.2 at the 95% confidence interval.

Knowing this, one standard deviation in either direction from the national average score is an appropriate test for practical significance when applied to hospitals in Rhode Island. Comparison of each hospital's score at the 95% confidence interval with a national average score is an appropriate way of determining if the hospitals score is statistically different from the score denoting the national average. More importantly, **it is the intent of this project to compare hospital scores to a national average score, and not to each other. It is not appropriate use of the data in this report to compare hospitals to each other.**

Press Ganey Patient Satisfaction Report Explanation

This web site includes the **Press Ganey Patient Satisfaction Report** that was provided to the Rhode Island Department of Health. The information contained in these reports are the raw scores from which the diamond ratings for the public report were assigned. A description for each Press Ganey report section is provided.

Graphic Subgroup Comparison Layout

The Graphic Subgroup Comparison (GSC) is a graphical representation that allows several hospitals' scores on a particular domain to be displayed at the same time. This bar graph shows each hospital's score on that domain. Along the bottom of the graphic, each hospital's name is listed (e.g., Kent Hospital, Landmark Hospital, etc). The bar above each hospital name graphically depicts the score received for a certain reporting period or time frame. In the box above the bar graph, each hospital's score is listed along with the number of respondents. The national normative information (mean score, standard deviation, maximum score and minimum score) is displayed in the box directly above the hospital's score. The box overlay on the bar graphs indicates the range of three scores to which the hospital is being compared, i.e. mean, maximum and minimum scores. Scores are marked, or flagged, if they differed by at least one standard deviation above or below the mean score. If a hospital's score is at least one standard deviation above the mean score, a plus sign (+) appears next to the score. If a hospital's score is at least two or more standard deviations above the mean score, two plus signs (++) appear next to the score. A score that is

at least one standard deviation below the mean score is marked with an asterisk (*). If a hospital's score is at least two standard deviations below the mean score, two asterisks (**) are placed next to the score. A score that is not flagged, indicated that the hospital's score was within one standard deviation of the norm mean.

In the Public Report, a diamond(s) designated if a hospital's performance for each domain was above average, average, or below average. From the GSC, the standard deviation flagging indicated how many diamonds a hospital received for each domain. If, on a particular domain, a hospital received one (+) or two (++) plus signs, the hospital received three diamonds for that domain in the Public Report. A hospital that received no pluses or asterisks on the GSC received two diamonds in the Public Report. For a hospital that received one (*) or two asterisks (**), a single diamond appeared in the Public Report.

Administrative Summary Layout

The Administrative Summary displays demographic information for several hospitals on one table at a time. The number of observations for each question is also provided. The first column contains the list of questions. The second column lists the possible Reponses. The third column displays the normative comparison data. Following, there is a column for each hospital across the top of the table (e.g., Kent Hospital, Landmark Hospital, etc). The demographic information the Administrative Summary is divided into two sections. The first group of demographic information is that provided by the hospitals within the patient file. The second group of demographic information is that self-reported by the patient on the actual survey. However, psychiatric services only will has self-reported demographic information because there were no data files involved in the hand-out methodology.

Contact Information

To learn about hospitals in Rhode Island

For more information about any of the hospitals in this report, go to **pages 2 and 3** to see a listing of the hospitals. Included will be the names of the hospital, where it is located, the phone number and web site address. Use this information to contact any of the hospitals. Also, you may contact the Hospital Association of Rhode Island (HARI) at 401-274-4274 or visit the web site: *www.hari.org*.

To learn more about the report

Here are some organizations ready to help you better understand the report.

- For information or questions about the contents of this report, contact:

  Hospital Association of Rhode Island (HARI) at 401-274-4274 or visit the web site at *www.hari.org*.

- For help in reading or understanding the report, contact:

  Aging 2000 at 401-521-7930

- For language translation help, contact:

  International Institute at 401-461-5940

  Office of Minority Health at 401-222-2901

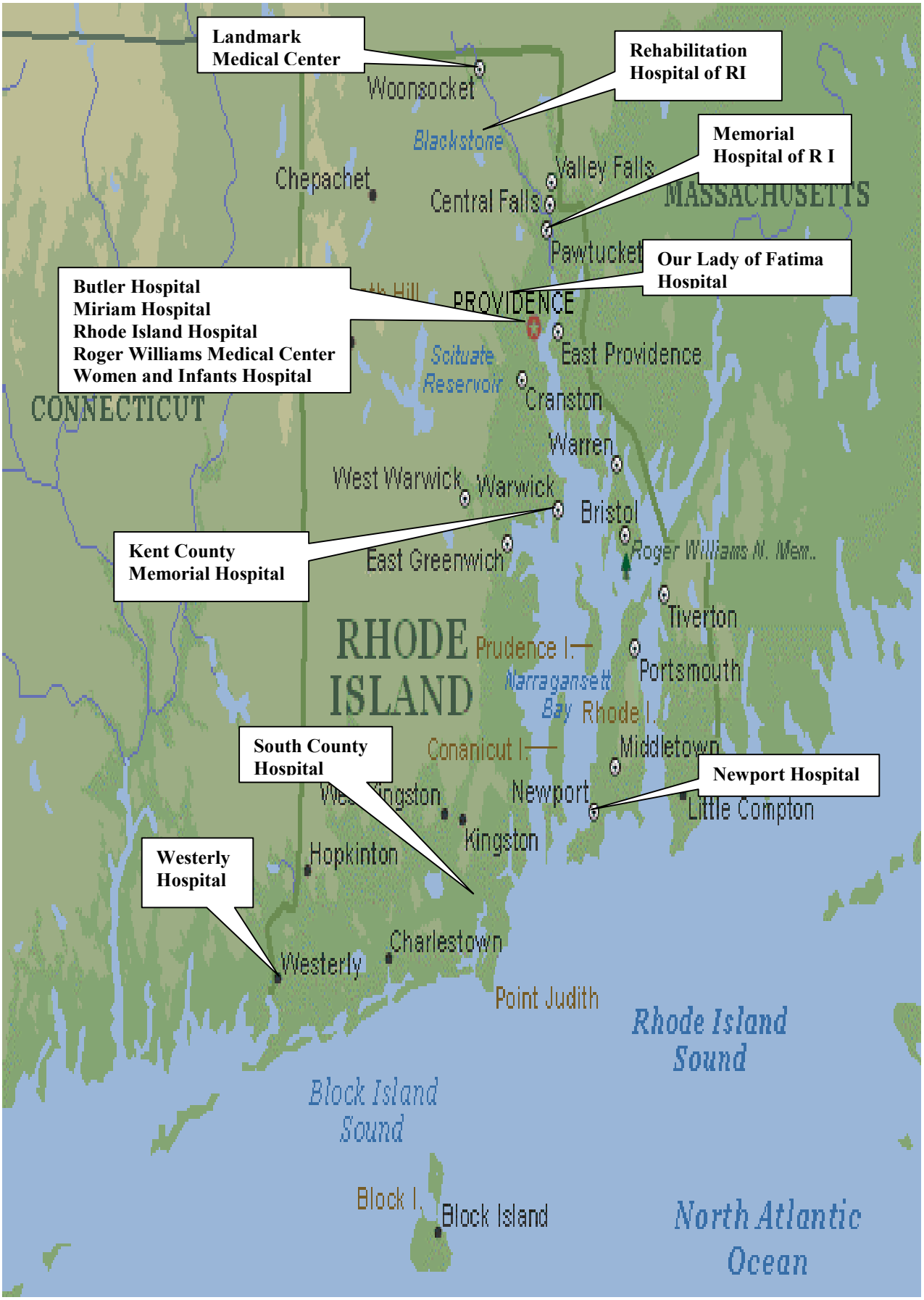
- For more information about the 1998 law on public reporting for health care facilities, contact:

  Rhode Island Department of Health at 401-222-2550

  Rhode Island State Government at *www.rilin.state.ri.us/Statutes/TITLE23/23-17-17/INDEX.HTM*

To learn more about other health care facilities in Rhode Island

Over the next months and years, the Department of Health will report information on medical care in hospitals, and on patient satisfaction and medical care in nursing homes, home health agencies, and other health care facilities. These reports will be made available to all Rhode Islanders. For current reports, call the Department of Health at 401-222-2550 or visit the web site at *www.healthri.org*.


Landmark Medical Center
Rehabilitation Hospital of RI
Memorial Hospital of R I
Our Lady of Fatima Hospital
Butler Hospital
Miriam Hospital
Rhode Island Hospital
Roger Williams Medical Center
Women and Infants Hospital
Kent County Memorial Hospital
South County Hospital
Newport Hospital
Westerly Hospital
Woonsocket
Blackstone
Chepachet
Valley Falls
Central Falls
MASSACHUSETTS
Pawtucket
PROVIDENCE
East Providence
Scituate Reservoir
Cranston
CONNECTICUT
Warren
West Warwick
Warwick
Bristol
East Greenwich
Roger Williams N. Mem.
Tiverton
RHODE ISLAND
Prudence I.
Portsmouth
Narragansett Bay
Rhode I.
Conanicut I.
Middletown
Newport
Little Compton
Kingston
Hopkinton
Charlestown
Westerly
Point Judith
Rhode Island Sound
Block Island Sound
Block I.
Block Island
North Atlantic Ocean